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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------------|------------------|
| 10/799,655 | 03/15/2004 | Hul-Chun Hsu | OP-093000001 | 8604 |
| 7590 Yi-Wen Tseng 4331 Stevens Battle Lane Fairfax, VA 22033 | | | EXAMINER MCKINNON, TERRELL L | |
| | | | ART UNIT 3743 | PAPER NUMBER |
| DATE MAILED: 11/17/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,655

Applicant(s)

HSU, HUL-CHUN

Examiner

Terrell L Mckinnon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamburg et al. (U.S. 5,582,242) in view of Luo (U.S. 6,725,909).

Hamburg et al. discloses a heat pipe comprising:

- a first lid; a second lid; and a hollow pipe member with two opposing open ends;
- each of the first and second lids includes an interlocking member along a periphery thereof and a flange extending radially and outwardly from the interlocking member, the flanges have a thickness smaller than that of a sidewall of the pipe member;
- the hollow pipe member includes a cylindrical pipe;
- the first lid comprises a filling tube mounted thereon;
- the filling tube includes a sealing portion.

Hamburg et al.'s invention discloses all of the claimed limitations from above except for a wick attached to the interior sidewall; the first and second lids are formed by press process; the first and second lids include curved surfaces; the curved surfaces include

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recessed surfaces; the curved surfaces include protruding surfaces; the flanges have peripheries larger than an internal peripheral of the open ends; and the flanges have peripheries no larger than an external periphery of the heat pipe.

However, Luo teaches a wick (7) attached to the interior sidewall; the first and second lids include curved surfaces; the curved surfaces include recessed surfaces; the curved surfaces include protruding surfaces; the flanges have peripheries larger than an internal peripheral of the open ends; and the flanges have peripheries no larger than an external periphery of the heat pipe.

Given the teachings of Luo, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat pipe of Sarraf with for a wick attached to the interior sidewall; the first and second lids are formed by press process; the first and second lids include curved surfaces; the curved surfaces include recessed surfaces; the curved surfaces include protruding surfaces; the flanges have peripheries larger than an internal peripheral of the open ends; and the flanges have peripheries no larger than an external periphery of the heat pipe.

Doing so would improved the heat pipes thermal efficiency.

Conclusion

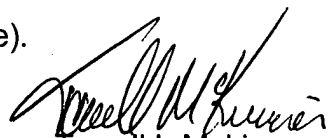
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited for disclosing related limitations of the applicant's claimed and disclosed invention. Sarraf, Mochizuki et al, Tajima, Chao et al.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L Mckinnon whose telephone number is 703-305-0059. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 308-0101. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Terrell L Mckinnon
Primary Examiner
Art Unit 3743
November 15, 2004